INAUGURAL ESSAY

ON

INSTINCT,

BY THE

REV. F. NOWILL-WEBSTER,

FOR

THE ATTAINMENT OF THE DEGREE OF DOCTOR

OF PHILOSOPHY AND MASTER OF ARTS AT

GÖTTINGEN.

London:

PRINTED BY T. PETTITT AND CO.,

23, FRITH STREET, SOHO, W.

1868.

Digitized by the Internet Archive
in 2026

https://archive.org/details/IA41544702_0120

INSTINCT.

INSTINCT, what it is, and what it is not, has ever been one of the great intellectual difficulties. The meaning of it, the extent of it, its mental and spiritual relations, have been a prolific source of speculation, and of mistakes. As a rational or philosophic theory, it has been tossed about, perverted, and transformed, enlarged or contracted, to suit each new hypothesis of mind and matter. To the understanding of the multitude it has appeared a suitable term for expressing all that is dim and inexplicable. Like Fate and Chance it has been a convenient and significant expression to veil man's lack of knowledge of cause.

But it must be confessed, that, although the common idea may be confused, and not sufficiently exact for scientific use, yet such as it is, it is not by any means distorted. It has at least the merit of being the result of the practical experience of men in general, the aggregate of deductions drawn naturally from unprejudiced observation. It is not brought to the trial of one sided opinions, nor sacrificed to a logical accordancy.

From many reasons, which suggest themselves, two may be selected to shew why an examination of the familiar common view of Instinct is a suitable preface to the inquiry; first, the ultimate purpose of this essay is not to invent fresh applications, but rather to explain a word in a settled, established connection, depending almost wholly on the general practice in its use; secondly, for the useful hints that may be drawn from this view, of the path which should be pursued; and of the extent of the subject.

To what, then, is the term Instinct popularly applicable. and to what is it not?

Men do not speak of the tide ebbing and flowing, or of water rising to the same surface-level in all parts of its volume by instinct; but it is by instinct that some flowers expand themselves when the sun casts his rays upon them, and close again when the cold dews of evening begin to descend. It is by instinct that birds find their way homewards from great distances. By instinct the squirrel prepares its nest and lays up its store of food for the winter. It is by instinct that some swimming birds migrate annually from the temperate to the arctic regions of the earth in search of food, and for the purpose of bringing forth and hatching their young.

The most manifest difference between cases where the term is suitable and cases where it is not, is, that the first-mentioned are exhibited by organic life, the last are not so exhibited. From this cause the chief idea in the generally received view of instinct is, that it is restricted to the former.

Once more, it is not by instinct that a mother knows her child, or anticipates its wants; it is not by instinct that a skilful sailor calculates his distance from the land or from a passing ship. Again, it is not by instinct men or animals crave for food, or drink, or digest their food after passing it into the stomach. It is not by instinct that the bodies of men continue to increase in size from infancy to manhood.

These additional cases being given where the term is not applicable, it requires but little consideration to see that instinct is not applied to powers of thinking, choosing, or benefiting by past observation, or to the merely natural faculties of organic life. Indeed, in the generally accepted view, instinct has very little to do with the latter, it is principally made use of as a contrast to the understanding. The understanding and instinct are both looked upon as active faculties; but in the former there is a sensible exercise of certain means for the attainment of certain ends. In the last there cannot be said to be any selection, for an unchanging determination is always manifest. Again, as the means are still put in operation when the object is removed, it cannot be said that there is any perception of an end; nevertheless, if the issues of these instinctive operations are examined, they are found to be as perfect and as fitly adapted to the uses of the creatures as if they had their source in a very powerful understanding.

Instinct then operates like the understanding, but ignorantly, and in some sense like the will, but without the power of choice or judgment. Amongst the masses it is a name for ignorance of an agency which, by negative analogies only, can be exhibited to the mental view. It is only by the introduction of an active power, plainly beyond nature, that the popular view essays (if at all) to explain the difficulty.

The usage of language assigns Instinct to man likewise; and this application may probably give a clearer idea of what is implied. Between the lower order of creatures and men there is this difference, the former can only be noticed outwardly as subjects of hap-hazard speculation and conjecture; the latter are themselves the objects of inward reflection.

It seems to be suggested by language that men think, perceive, and act by Instinct as well as by other faculties. Things believed and assented to merely because they are believed, are instinctive; but they cease to be instinctive whenever a reason, such as precedent or practice, can be given for them. It is a common thing to hear people speak of instinctive likes and dislikes, but such likes and dislikes are not only without a sensible reason, but are frequently diametrically opposed to reason. Could a conscious reason be given, they could not be called instinctive. The natural spontaneous love of a mother for her child, or of a child for its parents, is instinctive, but it could not be called instinctive if a motive, particularly an interested one, could be discovered for the love. Of the instinctive *acts* of men there is the shunning of danger, closing the eyes on coming suddenly from deep gloom into a room brilliantly illuminated, but language does not apply the term to the beating of the heart or the action of the respiratory organs.

The result then of the application of Instinct to man and to other creatures is very nearly the same in both cases. In both cases it acts without the understanding or the will. Every action ceases to be instinctive the instant either of these powers enter into it, however subtile be the connection. The chief point then, of Instinct seems to be that it is governed by impulse, and is devoid of reason. In this way it still continues to be a negative idea. A firm persuasion that Instinct is more in accordance with nature than intelligence is seems to be the most positive part of it. But this belief is opposed by reason.

From this consideration of the popular view of Instinct, it will be seen that it points out pretty plainly the principles by which the boundaries of the subject are to be determined, although at the same time, it only affords an indefinite notion of the meaning of the term.

It will, perhaps, be as well to examine a few conspicuous theories of Instinct, and the principles from which they have been developed, before endeavouring to analyze the different relations in which the word is used.

As has been previously intimated, philosophers appear rather to have fashioned their notions of Instinct so as to dovetail in with some central principle, than to have treated the subject according to its deserts. With them Instinct has been made the source from which all faculties spring. It has ranged from intelligence to mechanism, according to the limits of the principles taken as guides. To one it has appeared a mere mechanical operation, unadaptive and insensible, the play of springs and wheels wrought and worked by the Divine hand. This is verified by two points of difference or contrast to reason, which are regarded as purely adaptive and sensible. Creatures guided by the former power possess no power of communicating or even of conjoining ideas. This does not proceed from want of the organ of speech, for some birds may be taught to articulate words. The one thing wanting then is, the power which regulates the organ, and makes it adaptable to variety of circumstances. They arrive at a state of excellence and certainty, in a few definite operations, equal or greater than human reason could attain, but for other operations they are totally destitute of the requisite power.

The power by which they act is not knowledge which grasps all circumstances, nor intelligence which adapts itself to all circumstances indifferently, but a fixed organic adaptation for a few particular acts. These machines, so to speak, have been formed by nature with astonishing complexness and nicety for certain definite operations, and these operations are the consequence only, of nature working in them according to the arrangement of their organs. That this view is not to be confined to the lower creation is manifest; for man too is a machine, and acts by Instinct, (if that term be applied to the power) in all operations which are not regulated by reason. This view is the result of the application of two principles. First, thought, by which man recognises his existence, is not only the cause, it is also the essential part of mental existence. The functions of the soul are determinations, passive and active, from within and from without. These determinations are all conscious thoughts. There is nothing but the mechanical play of organism beside them. By this abrupt distinction, Instinct, as being an unconscious principle, is wholly shut out from mind.

The other principle is, that the creative activity of God is never-ceasing, not only setting but also keeping in motion the whole machinery of existence. Not only the organs of life and their functions are the work of God, but each successive operation is a distinct emanation from the Divine will. Hence there are no such things as active secondary causes, and Instinct is reduced to the passive play of machinery in the Creator's hands.

By another thinker, Instinct is looked upon as one of the principles of the self development of nature. Each creature is a finite force, or rather, a harmony of forces; when once organized and set in motion by the Creator, these forces have an independent activity of their own, an activity which is not a play of force in response to outward impressions, but the growth and expansion of successive changes, the principles of which are incorporated in the original nature of the creature. Each nature is a germ, comprising within itself, on the one hand, certain primitive qualities and tendencies, active and passive, and on the other, certain innate forces, the

sphere of whose activity is the growth and expansion of those primitive qualities and tendencies.

Further, there is among natures no dissimilarity of *kind*. There are original forces and original dispositions in all. Each nature is an epitome of all others. But there are differences of degree depending on the distinctness of the original dispositions, and on the liveliness of the self-developing forces. Bodies are natures of the lower degree, souls, of the higher. The former are described as obscure, the latter as clear

As to the natures developed by the innate forces, the same mode of distinction may be applied. They are of two classes, the one dim, unconscious, devoid of reason, the other, clear, conscious, reasonable. The former may be called Instinct, the latter Reason.

The latter appears only in the highest orders of development, the former ranges through all ranks of natures. Instinct carries out the primary dispositions, whether intellectual, moral, or material, instantly and irresistably, but, at the same time, unconsciously; Reason, by conscious attentive consideration, seizes and developes them.

It will be necessary to examine another principle enunciated by the same philosopher in order to gain the full meaning of this view. Exactly applicable only to the higher grades of nature, it will be applicable to all others, in only a slightly different sense. The principle is this, the mind is always active, but not always conscious. And, further, its activity is spread over an infinity of objects, but its consciousness confined to a few. The unconscious activities of the mind are *ideas*, the conscious activities are ideas framed, or founded upon those ideas. The innate force which gives direction to the former is Instinct, that which gives direction to the latter is Reason. A wider sphere for Instinct is at once opened by the admission of latent modifications of mind. It is not mechanical but mental activity, and developes not only the thoroughly formed dispositions for action, but those of intellectual and moral truth likewise.

A much wider and higher scope is given to Instinct by a great thinker, who uses the term to denote the immediate and spontaneous beginning of knowledge.

Nature is essentially true to herself, and reveals her realities in certain primary intuitive beliefs or instincts, which are the principles of all activity and all knowledge. These instincts are the foundation and the final test of all derivative and acquired knowledge. In all relations with the spiritual world within, and the material world without, they are a starting point and a guide. Instinct is then, the conscious but instant agreement of nature with herself, the ultimate foundation of all life, corporeal, moral, intellectual.

On totally different principles, a somewhat similar result, (so far as Instinct is concerned) was arrived at by another thinker. According to reason, there is no reality either for mind or matter.

There are impressions, and there are ideas, their less lively copies, and in the sense of cause and effect there are connections formed between ideas. These connections are not given by demonstrative reasoning, for the denial of the effect involves no contradiction of the cause. Nor by probable reasoning, for it is itself based on the connection, and so cannot establish the belief without producing a vicious circle. The only alternative is to base all knowledge and deduction on a natural law, and to reject all reasonable ground. Only by repetition can the connection of cause and effect be given, and the sole necessity of the connection arises from

habit or custom, mechanically unfolded from a primitive instinct or inclination. The same principles may be extended from man to the lower orders of creation. The differences are, that in them the connections established by habit are neither so many in number nor so general, while, on the other hand, animals are indued with a ready-framed experience in their instincts. This is placed beyond doubt by the fact that the higher you go in the order of creation the more frail and powerless the state at birth; and the opposite.

Instinct, then, is not a speculative theory but the foundation of a practical reality which we are constrained to accept as matter of belief, though wanting the power to grasp it as matter of conviction.

The view of Instinct held by another thinker is a remarkable one. It is said that the "pure mechanism," of one, and the "unconscious intelligence," of another of the philosophers referred to above, are inadequate to account for actions prompted by Instinct. The only source left is intelligence itself. Nevertheless, actions prompted by Instinct are clearly unconscious, and independent of the will. They must therefore be imputed to a state of the intelligence, in which consciousness and will have no participation. Such a state can only result from habit, by which operations become mechanical without the interposition of the judgment and incentive which first determined them. Instinct, then is intelligence deprived of reflection by habit. The degree of developement, which may be called Instinct will manifestly vary according to the intricacy of the organization and the extent of the intelligence. In animals the organization is simple, the wants few, and consequently only a small number of particular judgments are necessary to meet the conditions of their existence. These are continuously repeated, and consequently, quickly become mental habits. After a brief activity their intelligence exhausts its objects and passes into an unconscious mechanism. Man, on the contrary, has a very intricate organization and an endless variety of wants, for he has to satisfy intellectual and moral longings, as well as the wants of the body. New combinations of circumstances are perpetually being formed which prevent Instinct or habit from absorbing the whole of man's nature. Reason is continually increasing in number, and extending, habits, which she makes use of as a means of progress to a broader and higher activity. By this theory the facts of genius, taste, and cognate faculties may be ascribed to Instinct. Reflection upon repeated judgments as to truth converts relations into mental habitudes. For this reason, the conclusion may be grasped before the premises—relations are grasped as if intuitively; so belief is conviction, become habitual or instinctive. The same applies to men's judgments about the beautiful, which, when trained to habits, form, taste, the mental instinct.

The main point to be noted in this view is, that Instinct is a particular faculty, not a general one. It consists in the coherence of particular judgments. We assign universality to what are only our own prejudices, simply because habit *is* second nature. Even in animals the uniformity is only in appearance. The instinct of each individual creature is the concretion of its own judgments; the lower in the scale of creation, the more simple the conditions, and the less in number and the more simple the judgments. From this arises their uniformity. An easy explanation of the greater certainty and perfection of animal instincts is given by these principles; they are solely the result of narrow limits and frequent reiteration.

To this selection of philosophic views, two others of more recent date may be given, which, though both starting from without and dealing with the inner life as a reflection of the outer, present the phenomena of Instinct under different appearances.

The first view bears a strong likeness to that last reviewed. It may indeed be said to be the same theory fashioned anew from a clearer, deeper, knowledge of the science of life. Life, with all its powers, is a development starting from the response to the simplest impressions, and rising to those intricate physical and psychical states which respond to the most involved and diversified stimuli. Intelligence is developed by succeeding stages by the most simple displays of vital action. Each stage is a reflection of outward relations, which rise in order from clearness to complexity—from general to particular. Physical relations thus bring forth psychical states, and the adherence between the latter is in proportion to the duration of the former. Naturally, the more simple the outward relation, the more fixed and organic the mental states, the more automaton-like the actions which are their consequence. A single contraction and a single impression is what they start from. The union between these cannot be dissolved, and the reciprocal action is wholly automatous.

To a combination of impressions there is a definite transition, and it is at this point that Reflex Action is replaced by Instinct. Three conditions are involved in the combination of impressions which distinctly mark out the higher power from the lower. First, the impressions are made in succession rather than at one and the same time; secondly, in order that impressions may hold the same equal order, they must be brought into connection through a general vigorous centre; and thirdly, the outward connections and the inward connections which are adapted to them are more complex and particular. Between Instinct then and the centre of life there exists a close connection, it is essentially a faculty or rather a stage of mind.

Further, as in the progress of development, the physical connections and the answering psychical states become more involved and particular, the latter by degrees loses the consistency, which is the consequence of the unceasing reiteration of the more simple connections. The response of mind loses its distinct automatic qualities and Instinct merges into a higher quality, the power of selecting, distinguishing, and examining the relations which things bear to one another, that is intelligence. Thus Instinct is the intervening stage in the development of mind. The complexity of the relations distinguish it from reflex action, and the coherence of the psychical states from intelligence.

The other thinker referred to makes use of the term to furnish an answer to the question, What is the first fact upon which the reciprocal action of mind and matter is founded?

To trace the evolution of the powers of the mind in response to matter, is easy. Such a hypothesis may be as true as it is specious. It is quite consistent with a reasonable idealism, if the impressions conveyed by matter be treated as occasions rather than causes. But if traced backwards, there is a point at which the action of matter is no longer conceivable. Positivism may say that at this point our experience comes to an end, and what is beyond experience is an empty space, which can be bridged only by the unsubstantial creations of the imagination. Experience goes no further than the first material impression. But reason, instructed

by experience, makes known to us that there can be no impression without something impressed; and, further, that the response to a given impression differs according to the thing upon which the impression is made. Thus, experience implies an antecedent something, and a something of some special nature, to be, not only the point from which it has its beginning, but also to contribute to its results. There is, then, a primitive element of mind, as well as a primitive element of matter. Again, the mutual action of these elements must commence with one or the other of them. It is only putting off the difficulty to refer the commencement of it to a third power, for granting the hypothesis, it remains still to be determined with which of the two this third power begins to operate. Though matter cannot (as experience appears to point out) give rise to changes, it can direct and perpetuate them. It must therefore commence with the mind. There must be some original spontaneity of mind from which all the changes take their first existence. This result has been arrived at principally as a theory of intellectual discernment, but there is evidently nothing to limit its extension to all the relations of mind and matter. This writer then asserts that this spontaneous force working in the original arrangements for action, is Instinct. It is Instinct which gives the most simple organic response. It is Instinct which calls forth combined and concordant actions, as for example, the motions of the limbs. It is Instinct by which feeling is, in the first place, linked with its outward manifestation, It is Instinct which furnishes the first link between feeling and action, the first principle of good will Instinct is the primitive activity on which association operates, but it is not a self-developing activity, it is only the original spontaneity of life, which can be modelled into any shape according to the impressions of matter.

It is not here purposed to express any judgment on, or to form any opinion of, the value of the principles upon which such views of Instinct, as we have been examining, are based. They are a fair specimen of all philosophic views on the subject. It is sufficient to remark that they point out two leading conceptions of Instinct; on the one hand, as an original power of nature, on the other, as an acquired power. This result may fairly be assumed as a guide in analyzing the nature of Instinct. But before attempting to treat of the nature of Instinct, it is requisite to consider whether there is such a faculty at all.

The obvious argument from general concurrence, language, and philosophic theory may be passed over. The real question is, whether the circumstances, the phenomena referred to what is called Instinct, of necessity involve a separate independent faculty, or whether they may be referred to other powers, with an equal measure of probability. It is scarcely necessary to state, that by an "independent faculty," a particular determination of the vital force is meant.

The vital force is by the constitution of nature an unit, and it is in their phenomena only that its separate determinations or faculties can be perceived. The inquiry, then, is whether the phenomena of Instinct make up a separate collection, or can be referred to other collections.

The phenomena of Instinct are certain activities put forth by living organic structures. They include variations of matter and variations of mind. Their most manifest distinctive qualities are intricacy and accordancy. Further, the displays of vital force may be referred, in the main, to two heads or types of activity. The one is self-determining, self-ordering, self-regulating; the other, determined, ordered, regulated, not

by self, but by structure, or by influences from without, acting upon the mind. Even the man who asserts that *all* existence is material, may hold this distinction, for the faculties are not being contemplated in their spring, but in their appearances. The phenomena of Instinct, then, must be referred to one or other of these types, or to some other type distinctively different from each. Should they be referred to the latter, Instinct will be a special determination of the vital force, and its nature and its relations to other powers will be the next point to be examined. If to the former, the question proposed will be resolved by analysing the appearances into principles more clearly recognized.

The plainest examples of vital force determined by structure or outward impulse, are the growth of the tissues necessary to life, with all operations, as respiration, digestion, circulation of the blood, and processes corresponding; working under it; and further, the reciprocal action of the nervous system to impressions from without.

Instinctive actions must, then, be compared with such examples of activity, in order to form an opinion as to whether they are phenomena of the same force, or order of force.

For example, then, is there a sufficient likeness between the writhing of a spider when a pin is forced through it, and the persevering regularity with which it completes its web, or again, the carefulness and exactness with which it fills up any breaks in its web, to class the one phenomena with the other?

Are the curious adaptations of the nests of birds to special dangers, circumstances, &c.—are the elaborately constructed dams and storehouses of the beaver—phenomena to be classed with the growth of the feathers of the one, or the hair of the other, or their modes of flight and gait?

Or moreover, are the phenomena of digestion in man of the same class as the first carrying of food to the mouth, or the first act of chewing?

In each of these cases it may be truly answered that both sets of activities are consequences of organization, and responses to external impulses. But the inquiry is not whether they are absolutely distinct or not, but whether activities determined by natural inclination are of the same type as activities produced by the organs—or shew such plain marks of difference as to justify their being referred to a separate order of manifestations of vital force.

The examples given above appear to point to the last conclusion.

Instinctive actions are intricate both in circumstances and working.

Actions which are the result of organism are simple. In instinctive actions, means are co-ordinate with ends. In organic actions, action and re-action is more plain and immediate. Moreover, the former appear more centralized; they set in motion the whole vital structure; the latter are more restricted to particular parts of the organic structure.

The phenomena of Instinct must, then, be compared with those of Intelligence, that other type of vital energy, which is self-determining and self-adjusting.

The actions of Intelligence are principally marked by cognizance and selection. Like as in instinctive actions, there is an end and a means to that end; but the former is not only gained, but also designed and understood, and the latter are not only put in operation, but selected and judged, and an opinion formed of their value. They are, then, not only adaptive, but consciously adaptive.

The question then is, whether knowledge and choice can be traced to

such an extent in instinctive actions as to warrant referring them to the same source as actions which are admitted to be intelligent.

Numerous examples might be cited for trial and examination, but one will suffice for the present purpose. The building of its nest by the ground wasp, will be a suitable one. In its fabrication, the application of high mathematical principles is involved. In the plan and arrangement of the several parts, a remarkable perfection is exhibited; the object is gained, and that by the best means. Up to this point, there is nothing incompatable with this operation arising from cognizance and choice. Admitting, for the sake of argument, that it does thus proceed. Then from observation, and experience of actions in which cognizance and choice are perceived, it follows that each wasp must acquire the skill for the work, step by step, by experience. He must keep in mind, observe; must bring things together and examine and draw conclusions. Further, one wasp would set to work and build in one way, another in another, for there being an option, it cannot be imagined that every one would proceed in exactly the same manner. But both these results are entirely opposed to nature. Each wasp exhibits the same amount of skill at first as afterwards, they have no improvement, no instruction, and moreover all the wasps construct their habitations in exact conformity with one pattern, and work in precisely the same manner.

The comparison will perhaps be plainer when we can get an instinctive activity and an intelligent activity side by side.

To take the highest class of Instinct, in the case of man, that which determines the mind to accept truths. Are the beliefs in the truth of the senses, and the real existence of matter, to be placed in the same order with beliefs which are the result of indubitable proofs, the premises of which, are admitted truths of experience, or necessary truths of reason. Both are determinations of the mind, but the latter are the consequences of reasoning, the former are so far removed from being its consequences that it has no effect upon them.

Beliefs, when proved to be false, are replaced by others. That which is instinctively believed may be disproved, but it still remains. The mental activities which proceed from instinct are antecedent to, and do not depend upon, knowledge. And moreover, as far as can be judged, they are the same in all men, and operate in precisely the same manner. They cannot be willed away, so they are manifestly not the result of choice.

It appears, then, that there are sufficient reasons for not referring the facts of Instinct to the activities of the self-regulating vital force, Intelligence.

Activities which proceed from Instinct are more regular; those of Intelligence more particular and manifold.

Actions which are Instinctive are of like nature in every individual kind, and further, of like nature at all times in the same individual. What is here maintained is not that there is complete uniformity, but that there is so much greater a degree of uniformity in instinctive actions than in intelligent, that they must be placed in separate classes. For this uniformity is sufficient (as has been pointed out), to shut out the two chief essentials of intelligent activity, choice and knowledge.

If we are not wrong in distinguishing the activities of Instinct from intelligent activities as well as from activities which are purely organic, it follows that phenomena which point to an independent faculty as their original cause, are a completely independent group.

Instinct is, then, *something*.

The point next to be considered is, What Instinct is ; and the answer will best be given by an analysis of the relations in which this source of phenomena stands, first, to nature, and secondly, to its particular determinations and powers.

Two elements constitute the nature of each creature; the one primitive, the other acquired. It is the *whole* of the constitution or primitive powers, and the developments and variations produced in those powers by the manner in which they are customarily brought into action.

The first enquiry, then, about the nature of Instinct is, which part of the nature it pertains to; whether it is original or acquired.

In the foregoing examination, this question has not been answered, for in that the independence of the faculty in its source was not pointed out, but the independence of the phonomena only.

If Instinct is acquired, it follows that there must be something antecedent to Instinct from which it is developed. Such antecedent elements will belong in part to primitive constitution—in part to the forces which qualify it. In two of the theories reviewed above, this alternative is expressed in strongest manner. By both, Instinct is made a development by means of association. One discovers the antecedent element in intelligence, the operations of which come to be unconscious or instinctive by being repeated again and again ; the other, in the response of nature to impressions received from without, which, as soon as the impressions are so intricate as to need co-ordination through a common centre, become instinctive.

These theories may both be right views of some particular states and developments of nature. But it is not improbable that they are not properly called Instincts, but proceed from a confusion with other principles which have a likeness to Instinct in their appearances but not in their beginning.

Are instinctive activities, then, in their usual acceptation, activities of intelligence made unconscious by reiteration?

This appears to be negatived by the fact that the instincts are exhibited alike in the youngest creatures and the oldest, while intelligence increases gradually. The higher the organic structure of the creature, the more is this manifest. In man, the young child seeks its food, shrinks from danger, shews liking for some persons and dislike for others, &c., &c., long before intelligence comes into play. In man, intelligence seems rather to follow and set aside Instinct, than the contrary.

But if instinctive activities make their appearance before intelligent activities, and yet are the consequences of intelligence, they must be habits received by nature from parents, and their intelligent source must be ascribed to a preceding generation. But this is clearly only removing the difficulty a degree farther back. Moreover, the whole hypothesis breaks the law which experience has confirmed, that everything goes forward from the simple to the complex, from the lower to the higher.

An objection may be raised, that although Intelligence cannot be maintained to be the source of Instinct, yet Instinct may still be a faculty which is acquired, if instinctive actions can be shewn to succeed the smallest element of sensation. The activity would then be the result of the associations founded on the original sensation.

Two reasons may be given which militate against this view.

First, actions which are instinctive appear equally certain and instant

from the beginning, while all activities which are habitual are at first uncertain, and become established only by time and reiteration.

Secondly, if it is not absolutely necessary to take for granted some pre-existent power in creatures possessing the faculty of perception, to make the sensation possible, it is assuredly not possible to deny that there must be some primitive adaptation to render the first re-action to the sensation possible.

The "point" of all habitual actions lies in their accordancy and regularity as the consequence of reiteration. In themselves, they possess no spontaneity. An antecedent spontaneity is rather suggested by them as the starting-point of their development. The question is, to which of these, spontaneous action or habitual action, the term Instinct may be fitly applied. The former application is irresistibly indicated by language. And this may be further illustrated by cases of habits in man which are forced and unnatural. Will and understanding may act in opposition to original feelings, and this unnatural action may become habitual by reiteration. But however established and uniform such activities might become, it would be inconceivable to call them instinctive. On the contrary, the very reason for condemning them, would be their contrariety to Instinct.

It may then, on the whole, be determined that if there is anything original in nature, Instinct is one of the constituent principles of that original constitution.

The instincts of each creature appear to be primary and original as possessing the principle of spontaneity in themselves. The first constituent principle of Instinct seems contemporaneous with the first constituent principle of organic reaction, if it is not to be regarded as its previously existing condition.

A question here arises, what does original constitution mean? Is it orginal only in the sense of the first elements, out of which the life and living faculties of the individual are developed, or is it something continuing to the end of all time? This is only another way of asking whether the theory of development holds good of succeeding generations. And its relation to the present subject is shewn in the second question about Instinct. Well, then, is it, or is it not, capable of sustaining any modification?

Possibly all existence had its beginning in simple reaction, and has been developed by succeeding associations of actions and impressions, each one of which was more intricate than the one going before it. Possibly all the forms of being now in existence have been produced by accumulation and selection of slight variations in these associations, and they will in time to come develope the best of the present forms into still broader and still more forcible types.

Of each creature, then, the *nature* is the impress of the associations of generations gone before, and the voluntary reproduction of those associations, its *instincts*. Or, further, possibly the types of existence are everlasting, and always have a tendency to struggle to light, through the associations by which they are encrusted, but not modelled.

A question so wide as this is beyond the purpose of this essay. That will be fulfilled if it is determined whether or not the nature and instincts of each creature are practically fixed within the bounds of experience.

There are two principles established by modern physiological research which may fairly be made use of in settling this point. The first is, that all exercise of the powers of life changes and gives a new form to the organism

The second is, that to some extent, modifications of structure are hereditary. It is not purposed here to solve the problem whether the natures of creatures are or are not eternal, and whether modifications do or do not exhaust themselves and return to the original form. At present it suffices to inquire whether there is a practically fixed type of life in each creature ; that something above all modifications, which last only for a time, something which tarries and exercises a more permanent force than those modifications. It is not to be attempted to settle here whether it is really permanent, or is only the consequence of more persistent associations and modifications.

Instinct, then, thus far, is determined to be a primitive force of nature. The conditions to which the original tendencies or instincts respond may be denominated the natural conditions of the creature. Except we assert that these original tendencies have within them a power of self-developement into other forms, the connection of the primitive tendencies or Instincts with their modifications must be dependent upon the proportion of the natural conditions to the alterations in them. New determinations of activity, are demanded by fresh conditions, and habitual activity in their direction, is produced by the persistency of the new conditions. But structure accommodates itself to the manner of exercise, therefore, fresh conditions, and the habits formed to meet them, effect corresponding modifications of organism, And moreover, as such modifications are capable of transmission, the next generation will have modification, though perhaps, almost imperceptible of the original tendencies, answering to the changes of structure involved in the habits of the previous generation. In this manner, Instinct may be produced by habit. In the history of the individual, habit is never antecedent to Instinct.

Further, original tendencies may be set aside by new conditions and habits answering to those conditions. Where the new conditions differ, in a great degree from the primitive conditions, the deviation is correspondingly quick, and the original tendency is almost hidden from view. This is most apparent in domesticated animals. The new conditions in them, (which are many and diverse), and particularly the direct connection with an intelligent and choosing force, man, perceptibly modifies the structure and instinct. In the end these modifications are founded on associations, and may certainly be transmitted as long as the conditions which generated them are maintained.

The relations of Instinct to external conditions having been examined, it remains to determine more accurately its position among the primitive elements of nature, by examining its relations to internal powers.

All that is original in nature, is made up of two factors, structure and force. Structure is the instrument of force, force the development of structure. Structure consists of original adaptations, force of original activities. Further, both structure and force may be classed under two heads, and be denominated physical or psychical.

Now Instinct is assuredly not structure. Its entire scope and meaning may be the development of structure, it may be inseparably linked with it, but its essential nature is that of force.

In examining the existence of Instinct as an independent faculty it has been sufficiently shewn that Instinct is not the immediate cause of the more simple physical activities, that it is not Instinct which carries out the lower adaptations of physical structure. Were the term to be applied to these primary activities, the effect would be to make it equally extensive

with life. This would violate the principle laid down at the commencement, that the term is to be explained in a settled, established connection, and not to be twisted to fresh applications. Only when the activities are so complex as to be referred to a common centre, can they fitly be called instinctive. But it is precisely this which marks out psychical from physical activities. All the lower and more particular functions of organic life can be carried on by the simple responses of physical force. But intricate activities require a co-ordinating harmonizing power, that is, a power of mind. Hence Instinct is essentially a psychical power.

And again, in discussing the independence of Instinct as a faculty it was demonstrated that Instinct was not identical with the higher forms of psychical activity, that which is self-conscious and self-determining. And for this reason, the activities of Instinct, if the applications were correct, are destitute of the two distinguishing characteristics of activities of intelligence, cognizance and choice. They are shut out by the uniformity and spontaneity which characterize activities of Instinct.

From this reason, unconsciousness and impulsiveness, may be added to the conception of Instinct as a primitive psychical force.

Instinct is, then, a primitive force of nature essentially psychical as involving complexity and harmony, essentially unconscious and impulsive as involving uniformity and spontaneity.

The question arises, does the activity of Instinct begin immediately after quitting the sphere of unconsciousness? Consciousness alone allows of cognizance and choice, and for this reason, is of necessity linked with intelligent activity. But are there no powers, other than instinct, out of consciousness? Consciousness is acknowledged by modern science to be but a very small line of psychical life. It is only when we are conscious that we know and choose; but it is settled that the psychical powers work without our attention. The question is, whether these insensible activities of mind are instinctive. Are they uniform? Are they not rather most diversified and special? Are they spontaneous? Is not their apparent spontaneity rather as respects their entrance into consciousness, than their entrance into psychical life? It is unnecessary to urge this. That they are the consequence of association is clear from the fact that in new combinations, they again produce elements that had beforehand had a place in consciousness. They have the same likeness to real instinctive activities, that habit has to Instinct in its working.

But the essential priorty of Instinct to all association has already been seen. It is not simply meant by prior that Instinct cannot be resolved into, or proved to be the same as association, but moreover, that it is the primitive condition of all association, as giving the spontaneous re-action upon which it works. Hence Instinct is prior to all psychical powers, conscious as well as unconscious, so far as they are the consequence of association. What is implied by this priority, can only be understood by an examination of the most simple elements of the primitive psychical powers.

Now, according as they are adaptations and determinations, for action, feeling or thought, psychical structure and psychical force may be separated into three heads. Every psychical activity takes one or other of these forms or is composed of elements from each of them.

In the conscious phenomena of will, action is discerned in its highest form. The psychical adaptations for actions are carried out, in those phenomena, not only in their original form, but in response to a diversity

of conditions. The relations of the will to Instinct are nearly the same, whether it is looked upon as free or forced. Both are determinations; but one is the result of choice, the other of impulse. The point of difference is, that to will is exhibited a diversity of motives or alternatives, to Instinct a single activity only. But passing over the relations of the two powers, which may be given by inference by saying the one is conscious, the other unconscious, we will proceed to consider whether there is any connection between them nearer than that of being psychical powers.

If we trace back the "*appearances*" of will to their most simple elements, a point will be found where there is no motive, in other words, where there is no *consciousness*. At this point *will* properly ceases, or, more correctly, has not begun. The original activities before they rise into consciousness and become the matter of will, are direct responses to feeling. And further back still, they are the instantaneous reaction to the most simple impression. The connection between action and emotion may be a consequence of association. But if this also be brought back to its earliest form, a point is reached in the end where the response is entirely spontaneous; that is, in making an analysis of the "appearances" of action, the very last element is instinct. There are primitive psychical adaptations for action, and a primitive determination of psychical force to action, and there are natural conditions answering to the adaptations. The spontaneous and instant response of the force through and by the structure to the natural conditions, is prompted by instinct. And it is the first element of action. Moreover, as physical structure is the instrument by which psychical powers are brought into a state of coalescence with matter, the original physical co-ordinations will likewise be the consequence of Instinct.

Once more, with respect to feeling, if the elements of association are taken away from emotional states, and if they are traced back to their most simple elements, it will be perceived that these must be referred to a final spontaneity. There are, indeed, some emotions which appear to respond instantly and directly to their objects. Of this kind, are first affections. No reason can be given for them, and they cannot be resolved into association. They appear to be the instant response of the first adaptations for feeling, to their natural and peculiar conditions, that is to say, they are prompted by Instinct. There are other emotions, which are more intricate, and may be resolved into principles of association, or principles of reason. The longing after that which is virtuous and the delight in that which is lovely, are of this nature. They may be referred to those principles in their expanded form, but not in their first elements. But what is it which determines the primary response of emotion to its objects? That collection of graces which is denominated "Beauty," may be, as it has been described by an eminent writer, "an aggregate of bits of pleasurable association;" but on what was each of these bits grounded? What made them pleasurable? The only explanation is an original spontaneity of psychical force, which causes the original adaptations for feeling to agree with their natural conditions in an instant response, which is the primary element of emotion: and this spontaneity is Instinct. Once more, for the same reason, as in the case of action, the original relation between feeling and its physical expression is prompted by Instinct.

The third head of psychical structure and psychical force is Thought. All thought may be resolved into two elements, the one special and

incidental, the other essential and general; the one coming from without the other from within. The first are deductions from experience, and the most elementary form in which they are found is the first perception. Perception is the reference of sensation to an object which is without. It is not a consequence of knowledge, for the primary sensation is, by necessity, antecedent to all knowledge; nor moreover, of choice, for it is an instant re-action to a single impression. But for such a re-action to be possible, it is needful to suppose an original adaptation, and an original determination of psychical force, effecting an immediate response to the natural conditions. There must of necessity be a spontaneous impulse to perceive else there would be no perception. Perception is intelligent, for the act instantly becomes an element of consciousness. But the cause of the act taking place at all in the first instance must be Instinct.

Once more, the objects of all thought are of three kinds. They are either relations in mind itself, or relations in matter itself, or relations between mind and matter. All these groups of thought depend, in the end, on perception, and so on that spontaneous force which makes perception possible, *i.e.*, Instinct. But besides that, these groups of thoughts will be found, on being analyzed, to depend, in the end, on three simple thoughts which are not susceptible of any further dissection. These thoughts are these, first, mind is, second, matter is, third, the connection between mind and matter is. The two characteristics of these thoughts are that they come into the mind, we know not how, and that they come and remain whether we will or no. In other words, the force that determines them is unconscious and impulsive. Habit it cannot be, for we have seen that these thoughts are incapable of further analysis. Therefore they must be determined by Instinct. These three thoughts are original beliefs, the conditions of all knowledge, the beliefs in personal identity, in the reality of matter, and the truth of the senses.

Again, thought is not sent among the contingent elements of perception, at the mercy of any impulse. It is guided into certain channels by the needful truths which inevitably enter into and determine the form of deductions about contingent matter. These needful truths or thoughts may be the consequence of experience, from the greater persistency of certain relations. They would, in this case, be referred ultimately to perception, and to association, both of which, as we have seen, involve the before-existing spontaneity of Instinct. Or, further, they may be part of the original adaptations for thought—a formative element in the structure, which of necessity shapes the determination of the psychical force through it. They appear two ways in thought; first as themselves distinct elements of consciousness; they are then the objects of reason which instantly acknowledges their necessity and hands them over as luminous principles to the reasoning faculty: secondly, they appear as the needful form of other thoughts. The relations which the thoughts represent may be determined by association, but the shape in which they are thought is the spontaneous result of the psychical force expanding the psychical structure. As conscious elements of thought they are unfolded by reason. As unconscious elements of thought they are the consequence of Instinct. By Instinct, thought is determined blindly in harmony with them. By reason they are grasped in a clear manner as the laws to which all thought must agree.

There is, then, for thought, an original psychical structure suited to a group of natural conditions, and there is an original psychical force. This

force, in its primitive spontaneous activity, responds directly and harmoniously, through the structure of thought, to the relations which are its first object. And this determination is essentially instinctive. Instinct not only gives the original responsiveness, without which the primitive element of thought, perception, cannot be conceived, but blindly developes the original adaptations of thought into forms of consciousness.

And now, what is the result of this short analysis of the psychical powers into their beginnings?

They all appear to depend finally on three elements; the first, structure, the second, force, the third, conditions. There are original adaptations which give the shape to the primary elements of psychical life; there are spontaneous determinations which impart to them their activity; there are external relations with which they are brought into agreement.

Instinct is the psychical force which responds directly, and spontaneously, at the same time, to the natural adaptations and to the natural conditions. As relation to material impressions is the physical condition of activity, so Instinct is the mental condition.

An objection may be raised that this view has been obtained in too great a degree from a consideration of human nature only. But there appears to be no reason, from the facts of the case, for making a difference of kind between Instinct in the lower creation and in man. In its nature and in its operation it appears to be essentially the same in both. The difference of measure appears to be the consequence of its being co-existent with higher principles in man. At all events, it appears to consist in the same relation of force and nature in all creatures. The higher and more intricate the nature, the higher and more intricate the operation of the force. Because, then, the nature of man is the highest and most intricate within our experience, and moreover, is the only one of which we have any thorough knowledge, we are justified in taking man mainly for consideration.

Instinct has been treated here as a primitive psychical force, antecedent to consciousness, and to all psychical determinations, as that which imparts to them their primary spontaneous element. It is not intended to shut out or to affirm other primitive powers. Powers of this kind may be involved in the original adaptations, which are spontaneously urged to activity by Instinct. Or they may be the energies of a vitality within and above all structure, and all force, of which the first link to organised life is spontaniety of Instinct. Such theories as these, may be facts, or mere imaginations. That which has been attempted here, is simply to develope a theory compatible with the experience of life and nature.